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10/044,407	01/11/2002	Dennis M. Hilton	621P001	8920
7590	04/03/2006		EXAMINER	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/044,407
Filing Date: January 11, 2002
Appellant(s): HILTON ET AL.

MAILED
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GROUP 1700

Kevin S. Lemack
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 22, 2006 appealing from the Office action mailed August 24, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

10/306,594; 10/674,745; 10/657,494

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,109,030	CHAO	4-1992
6,475,275	NEBESNAK	11-2002
SU 1743887 06-1992		

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chao (US 5,109,030) in view of SU 1743887.

Chao teaches a foamed hydraulic composition comprising a copolymeric foam stabilizer (see abstract). Chao also teaches that the prior art has used polyvinyl alcohol as a foam stabilizer (see col. 1, lines 53-58). The hydraulic substance may be Portland cement or gypsum (calcium sulfate hemihydrate) (see col. 3, lines 11-22). The composition may also contain accelerators and retarders (see col. 6, lines 33-37). Chao teaches that the foam compositions may be prepared by any method known in the art including using compressed air and water (see col. 6, lines 57-68; col. 7, lines 1-14) or chemically or mechanically foaming a mixture containing a prefoam component with a

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hydraulic slurry (see col. 7, lines 11-17). Chao also teaches that the composition may be sprayed onto horizontal or vertical surfaces and that the composition functions as a fireproofing material(see col. 7, lines 51-64). Chao teaches the limitations of the claims other than the differences that are discussed below.

Chao fails to specifically teach the claimed method of making the foam.

However, SU teaches this limitation.

SU teaches a method of preparing foam wherein compressed air and the foaming solution are fed from two different hoses to a vortex generating sleeve wherein the sleeve creates turbulent flow conditions between the air and solution and produces foam (see abstract and drawing in their entireties).

It would have been obvious to one of ordinary skill in the art to have produced the foam by the method SU '887 because Chao teaches that any method known in the art may be used to prepare the foam, such as by use of compressed gases and SU teaches that the method of its invention produces a high quality foam by feeding compressed air and foaming solution through a sleeve.

Chao also fails to teach that polyvinyl alcohol is the foam stabilizer. However, since Chao teaches that the prior art uses these compounds as foam stabilizers it would have been obvious to combine the stabilizer of Chao with polyvinyl alcohol because it is *prima facie* obvious to combine two known components each having the same function to produce a third component having the same function, or it would have been obvious to replace the stabilizer of Chao with polyvinyl alcohol since Chao teaches that it is a functional equivalent of the copolymeric stabilizer of his invention.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chao and SU 1743887 as applied to claims above, and further in view of Nebesnak (US 6,475,275).

Chao and SU have been discussed above. Chao teaches accelerators such as calcium chloride (see col. 6, lines 33-35), but Chao fails to teach the use of aluminum sulfate as an accelerator. However, Nebesnak teaches that aluminum sulfate and calcium chloride are art recognized equivalents.

It would have been obvious to one of ordinary skill in the art to have replaced calcium chloride with aluminum sulfate as the accelerator because Nebesnak teaches that they are art recognized equivalents.

(10) Response to Argument

Appellant argues that while Chao teaches that his foamed composition can also be prepared by chemically or mechanically foaming a mixture containing a prefoam component with a hydraulic slurry, nowhere in the disclosure does he enable one as to how such a foaming operation would be carried out. Appellant argues that Chao's definition of the prefoam component (a foamed mixture of water and foam stabilizer) is contrary to the instant claim language.

Chao teaches at col. 6, lines 57-63 that the foamed composition of his invention can be prepared by any of the known methods for making foamed hydraulic compositions, such as by aeration by mechanical mixing and aeration by compressed gases. This teaching clearly suggests what Applicant has done. Furthermore, it

provides the motivation to combine Chao with SU '887. SU '887 teaches a method and apparatus for producing foam by mixing a foaming solution and compressed air in a sleeve with vortex-generating cavities.

While Chao prefers using the technique of mixing the prefoam component with the hydraulic slurry, he is in no way limited to this process since he teaches that any of the known methods for making hydraulic compositions may be used. He specifically teaches chemically or mechanically foaming a mixture containing a prefoam component with the slurry. This teaching suggests that the prefoam component and the hydraulic slurry are mixed together and then foamed. Furthermore, it is well settled that a reference must be considered for all that it teaches and it not limited to specific working examples and preferred embodiments. *In re Fracalossi*, 215 USPQ 569 (CCPA 1982); *Merck & Co. v. Biocraft Labs Inc.*, 10USPQ2d 1843 (Fed. Cir. 1989).

Appellant argues that Chao does not disclose or suggest conveying a slurry to a length of hose, introducing an amount of gas into the slurry in the hose at a flow rate and pressure sufficient to cause the slurry to foam. Appellant argues that SU '887 fails to disclose or suggest foaming a slurry that includes hydraulic binder. Appellant argues that SU '887 only teaches mixing compressed air with a foaming agent in a chamber having vortex-forming streams. Appellant argues that SU '887 fails to teach that the introduction of the gas be at a flow rate and pressure sufficient to not only cause the slurry to foam, but also to convey the resulting foam through the length of the hose.

In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections

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are based on combination of references. In re Keller, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 231 USPQ 375 (fed. Cir. 1986).

The combination of Chao and SU '887 clearly teach the claimed invention. Chao sets forth the required components and teaches preparing the foam by aeration with compressed gases. SU '887 teaches preparing a foam by aeration with compressed air. SU '887 teaches using a length of hose wherein the compressed air and foaming solution are combined in the sleeve and create a high quality foam. Chao teaches that the foam may be prepared by any method known in the art including using compressed gases. SU '887 teaches using compressed air to feed the foaming solution into the sleeve of the mixing chamber. The present claims do not exclude a vortex-mixing chamber. SU clearly sets forth that the amount of compressed air introduced into the foaming solution is sufficient to cause the slurry to foam and it would be reasonable to expect that there would be enough pressure to convey the foam through the hose.

Appellant argues one skilled in the art would not combine Chao and SU '887 since the skilled artisan would know that doing so would result in failure since SU '887 requires that the foamed mixture pass through a screen to disperse the mixture. Appellant argues that the presence of solid ingredients would clog the screen and inhibit the dispersion.

The examiner respectfully disagrees. Chao teaches in the examples 50 and 75 that the components are mixed into a slurry and lightweight foam is produced. Chao also teaches that the foam is sprayable (see col. 7, lines 51-55). Therefore, it would be reasonable to expect that the foamed mixture would pass through a screen.

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Appellant argues that the Hilton declaration demonstrates that the density achieved by spray applying the resulting foam produced in accordance with the instant invention was unexpectedly much less than that produced by spray applying the foam produced in accordance with Chao.

The declaration has been considered and is not deemed to constitute unexpected results. The showings are not commensurate in scope with claims. The claims are devoid of proportions whereas in the declaration Appellant has set forth proportions. The showings are not unexpected since the skilled artisan would expect that the bubbles of the foam of Example 1 would break easier especially in view of the binder being added to the prefoam. However, Chao teaches that his preferred method is not the only method that is within the scope of his invention and the foam composition may be prepared by any of the known methods for making hydraulic compositions and suggests methods such as SU '887 wherein a foaming solution and compressed air are conveyed through a length of hose to form a foam.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Cephia D. Toomer
Primary Examiner
Art Unit 1714

Conferees:

Vasu Jagannathan 

James Seidleck 